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IC-1303-74

7 January 1975

MEMORANDUM FOR: D/DCI/IC

THROUGH : C/PRD
AD/DCI/IC

SUBJECT : Energy Research and Development Administration

1. On 19 January the Energy Research and Development Administration (ERDA) will become a reality. The USIB membership question--specifically, where would the DCI like the USIB member to sit bureaucratically in ERDA--appears open at this time. Administrator Robert Seamans, Jr., was sworn in on 30 December 1974 (attached is a background sketch on Mr. Seamans, the proposed ERDA organization chart, and a recent US News and World Report interview with Mr. Seamans). As it stands the intelligence function will fall by default to the Assistant Administrator for National Security. This represents the same bureaucratic position intelligence currently occupies in AEC; MG Edward B. Giller, USAF, (Ret.)--the AEC's USIB member--is the Assistant General Manager for National Security.

2. Arguments have been tendered that the intelligence function should be at the ERDA staff level--responsible directly to the Administrator. This coordination would give intelligence a broader scope in ERDA than it currently enjoys in the AEC structure. The Assistant Administrator for National Security will be focused primarily on the military nuclear energy applications. In fact, the legislation creating ERDA calls for recommendations after one year as to whether the national security function (military applications) should remain in ERDA or be transferred to DOD. In the changing world environment more intelligence interests outside the military sphere have been generated on R&D energy issues across the board. Advanced fossil fuel technology, nuclear reactor developments, uranium enrichment, energy conservation, solar energy, and laser fusion are but few of these interest areas. Thus, I believe that the intelligence

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function would be more suitably attached directly to the ERDA Administrator, therefore, giving intelligence access and responsibility to the entire organization. If the Assistant Administrator for National Security retains the intelligence function, the historical bias toward military nuclear energy applications will likely continue.

3. While a staff function for intelligence (or an appropriate euphemism) is not included on the ERDA organizational chart, it seems likely that a staff to meet the Administrator's intelligence responsibilities could be established. To date three new Special Assistants have been named and they are not noted on the attached organization chart. The Deputy Administrator is an Executive Level III position and would be an appropriate member for ERDA to send to USIB. In his absence the intelligence staff chief could serve in his stead. When the DCI has his initial discussions with Seamans, he might make the point that intelligence interests might be better served in the future with the arrangement mentioned above.

4. Per your request, these are some of my preliminary thoughts in regard to ERDA. I would welcome your reactions and suggestions for further staff initiatives.



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Attachments:

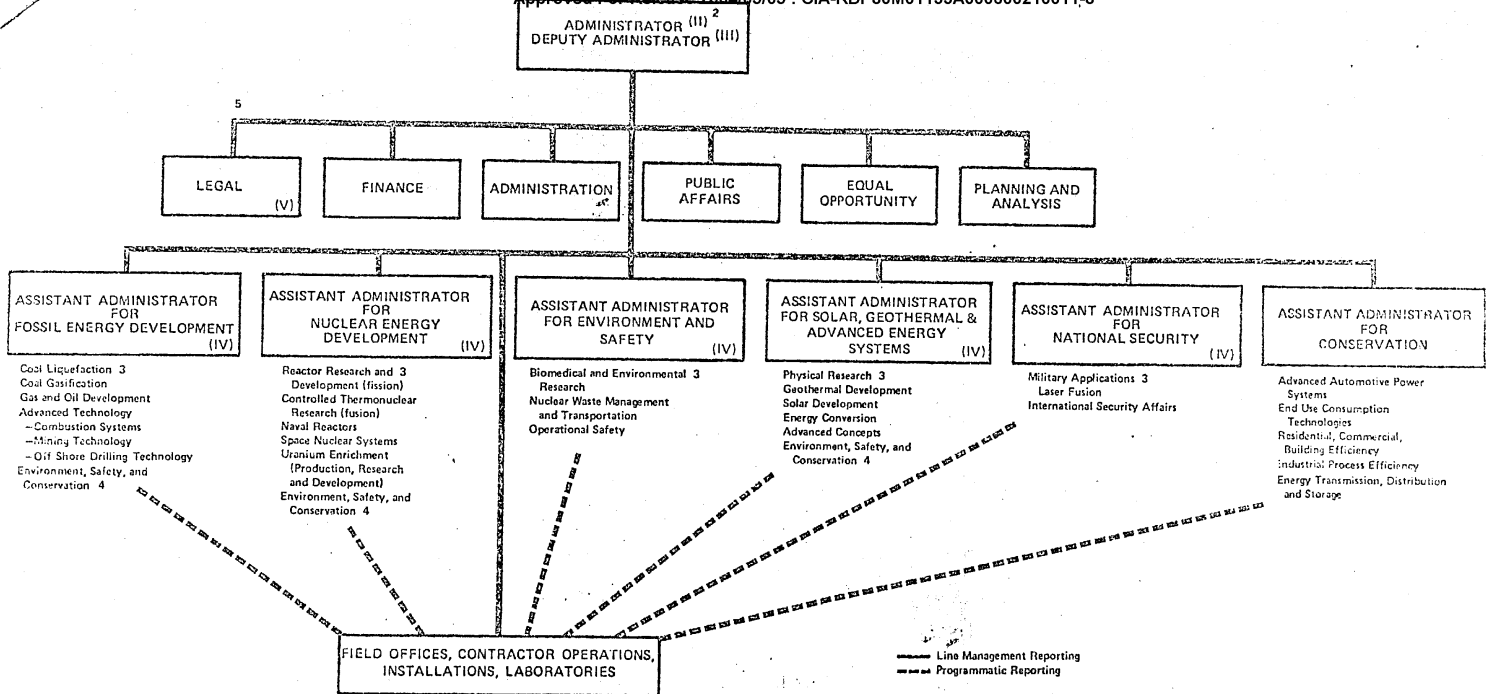
- A. Background Sketch
- B. Organization Chart
- C. Interview

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¹ The General Advisory Committee, Military Liaison Committee and the Patent Compensation Board of the AEC are proposed for transfer to the ERDA.² Roman numerals indicate Executive Level of position.³ Proposed areas of interest.⁴ Integral to development of energy technologies. Not duplicative of the Assistant Administrator for Environment and Safety.⁵ Individual staff functions are shown, staff office organization has not been decided.

Approved For Release 2004/05/05 : CIA-RDP80M01133A000600210011-8 **"WE HAVE TO BE CONCERNED"** **WHEN U. S. SKILLS GO TO RUSSIA**

Interview With Robert C. Seamans, Jr., President, National Academy of Engineering

In its drive to trade with Russia, the U. S. may be playing fast and loose with the technological advantage it now holds, says Mr. Seamans in this interview. As a top Pentagon and Space Administration official, he has helped shape American technology.

Q Mr. Seamans, as you view the growing export of American technology and know-how, particularly to Russia, do you feel a mistake is being made?

A I'm not in a position to say that a mistake is being made, but I would say that this is a matter that must be considered as one of the most important policy issues now facing this country.

We have a limited number of resources that are available to use in our relationships around the world. Technology is our prime resource for the future. It's one that is respected everywhere. It's one that most countries would like to emulate. It's one of the most important bargaining chips that we have in our negotiations with other countries.

Q Does the U. S. still lead the world in technology?

A Let me answer that by first saying a word about what technology is. It is a term that is frequently used, but often misunderstood. Basically, it is a capability to innovate, to invent, to develop new processes, to improve productivity.

I don't think that Americans have a complete corner on this market. I've traveled around the world—visited Japan and the nations of Western Europe. I've found that these countries have capabilities in some areas that are greater than ours. But in totality, I'm convinced that the U. S. holds the lead.

Q Do you see dangers in selling or transferring U. S. technology to the Soviet Union?

A I'm thinking of this transfer more on a worldwide basis, but I do feel that special attention is required when viewing our relationship with the Soviet Union. Russian leaders understand well the importance of technology for their nation's growth.

I don't hold that the Soviet Union shouldn't grow and develop. I think that's healthy as far as world stability is concerned.

At the same time, we Americans have to be concerned about economic competition, and we also have to be concerned about national security. And in both these areas, I question whether we are considering this matter of technology transfer as carefully as we should.

Q What specific kinds of technology are you worried about—space, computers, atomic energy, or just what?

A These are all important areas, but the one that I think is extremely critical relates to data processing and the whole computer field. In this, America is truly pre-eminent. Based on my experience in the U. S. space program and my observations of the Russian program, I've often said that the computer was fully as important as the rocket in getting out into space.

I think a key reason why the Soviets—though they have a very sound and well-balanced space program—have not moved ahead in some areas as rapidly as we is their limited capability in data processing. I think that they are very anxious to improve that capability by buying U. S. equipment and know-how.

Q Some experts say that the U. S. is a couple of generations ahead of the Soviet Union in computer technology. Is that about on the mark?

A Well, yes. But you've got to be careful in using those terms, because a generation in computers means only a few years, rather than the 20-year cycle we talk about in population generations.

The 360-75 IBM computer, to take an example, was absolutely essential to success of the manned lunar-landing program. We went to IBM for that equipment around 1964. And although computer technology has moved well beyond the 1964 model, the capability that it represents still is not available to the Soviet Union.

The Russians do have good computer hardware that they have either put together themselves or procured from West Germany or Japan. But it's still not as advanced as the equipment that we were using 10 years ago.

Q Are you saying the computer made the difference between success and failure in putting a man on the moon?

A Absolutely. No question about that. Without the computer, we could not have checked out in the final 20 minutes before launching the 50,000 to 60,000 different items that had to be monitored. The computer was used throughout the moon flights for navigation, for the lunar landing, for the recovery. Without it to diagnose the trouble, we could never have brought Commander Lovell and his Apollo 13 crew back home safely in the face of possible disaster.

(continued on next page)



Robert C. Seamans, Jr., at right, is a leading U. S. scientist and engineer. He was a high official of the National Aeronautics and Space Administration from 1960 to 1968. In early 1969, he became Secretary of the Air Force. He was elected president of the National Academy of Engineering in May, 1973.

[interview continued from preceding page]

Q Can this technology be useful for military purposes, such as development and improvement of weapons?

A Yes. The computer that's used in computation for lunar flights can also be important in a number of strategic areas—all the way from air defense to deployment of strategic forces, tactical aircraft and ground forces. It's invaluable in gathering rapidly large amounts of data, assessing what's going on, redeploying and sending out the necessary commands.

Q What about the other side of the coin—is there anything we're getting from Soviet technology that is beneficial?

A I've asked that question. I've yet to find an area where we're really getting anything like a *quid pro quo*, and there are technologies, such as those used in electrical-power generation, where the Russians appear to have a lead on us.

But the process that we appear to be going through is that we say we would like to have an exchange of information and technology. Towards this end, we have opened the door so that U. S. industry can go to the Soviet Union and discuss the possible sale of equipment and other exchanges. But this is un-co-ordinated as far as our Government and industry are concerned.

By contrast, it's very well co-ordinated on the other side. The Soviets have very clearly in mind what their needs are, what type of equipment they want, what know-how would be extremely valuable to them.

Also, American companies are under antitrust strictures. They can't get together to discuss what each is doing. So it's possible for the Russians to play off one American firm against the other.

I don't want to leave the impression that we have to slam the door on any exchange. I am for trying to find ways to work in a proper fashion with the Russians and with all other nations.

What I'm stating are some of the concerns of people who have been involved in the process. There has to be greater co-ordination on the part of this country to have it be effective and productive as far as the U. S. is concerned.

Q Should there be a Government agency to bring about this co-ordination?

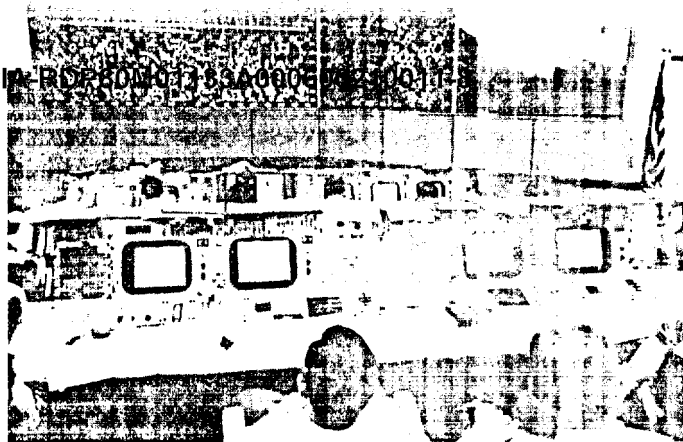
A I would think the focal point could be in the Department of Commerce. Somewhere we must have that kind of focus, so that the Government knows the kind of discussions that are going on and can be an adviser to the companies that are involved.

There are times, too, when some type of regulation is necessary. Whatever mechanism is devised to handle this, those in charge have to do more than just receive information. They've got to have authority to act. Under the proposed extension of the Export Administration Act now before Congress, U. S. companies would have to tell the Commerce Department about any plans or agreements to export "high technology" hardware and know-how to Communist countries.

Q Isn't there a list of strategic items that are banned for export to Russia and other Communist countries?

A Yes, but when you come down to what can be sold, it is never as simple as going to a catalogue to see what is permitted. A classic example was the proposed General Electric-SNECMA arrangement in which GE, with its aircraft-engine know-how, would have worked with the French-owned company to develop a new 10-ton-thrust engine. This was an entirely new design of a high-bypass jet engine.

The question was to what extent the GE technology was the *quid* in the proposed agreement. The French were going



Monitoring moon landing. Feat would have been impossible, says Mr. Seamans, without computers superior to Russians'.

to put up the money and the U. S. the know-how. To what extent was the technology comparable or similar to that going into the GE engine for our B-1 bomber that is under development?

After a lot of soul-searching, permission was not given. It was felt that this would be transferring the know-how to France and around the world, including the Soviet Union, because once something like this gets into a commercial venture, it becomes world knowledge.

An export license was later granted, but it had stringent restrictions: GE must produce the engine core in the U. S. and the French company cannot work on it until 1977. What's more, as a classic example of technology as a political and economic bargaining chip, the French Government agreed to suspend the European Commission tariff on U. S. jet-aircraft engines.

Q Are there any negotiations for sale of U. S. satellite technology abroad?

A This is another field where we are certainly pre-eminent. A few other countries, besides the Soviet Union, have put up satellites for scientific purposes and have done some good work. A great deal of it is based on co-operative projects with the U. S.

In communications, in the sensor field, in data processing of information from satellites we're really out in front—there's no question about it in my mind. That's why our satellite technology is in such demand—particularly by the Japanese, with their large electronics industry. They have bought hardware and know-how for three satellites from GE, Philco-Ford, and TRW.

Some people here are worried about selling off-the-shelf satellites abroad for fear of giving away a technology that will certainly be competitive and profitable in the future. But new developments of this sort cannot be kept secret very long from other advanced technological nations.

Q Mr. Seamans, do you think the U. S. is making a mistake in expanding détente with the Soviet Union?

A I think it's healthy to have détente. In that way, you get to know the other guy better—for selfish reasons, and also for the good of mankind.

But anybody who feels that you don't have to consider what might happen in the future, anybody who thinks you don't have to have a strong capability when you enter these discussions, just hasn't dealt in this arena and doesn't understand the problems.

We are in a new era today. In the past, with America's superabundance of resources, we didn't have to be so careful. Today, many resources in this country are scarce. Technology has become one of our most important assets. I don't think this has been fully recognized and policies adopted to preserve this valuable asset.

[END]